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TRUONG, CAM Y T	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/727,183	CINA, MIROSLAV	
	Examiner	Art Unit	
	Cam Y T. Truong	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21 and 26-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21, 26-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant has amended claims 1, 9, 14, 31, canceled claims 22-25 and added claims 39-40 in the amendment filed on 6/4/2007.

Claims 1-21 and 26-40 are pending in this office action.

Response to Arguments

2. Applicant's arguments with respect to claims 1-21, 26-40 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that Chan does not explicitly teach limitation "repeatedly attempting to associated itself with another lock level that closer to the particular lock level until the process associates itself with the particular lock level".

Examiner respectfully disagrees Brenner teaches write flag 105 is set to a true (a preset value) when the lock is held by one or more readers and a writer has requested the lock. In this case, reader is represented as a process (fig. 5, paragraphs 0048, 0059).

Brenner teaches firstly, write flag 105 is set to false value, but later write flag 105 is set to a true value when the lock is held by one reader (figs. 4-6, paragraphs 0048, 0059).

Brenner teaches a process H request a lock to access resource. If the lock is available, process H is assigned a lock to access resource. If lock is not available, process H is put in a queue for sleep until the process is woken up and requests the lock again (paragraph 0051, 0053, 0057). The above information shows that the

process is repeatedly attempting to associate the process with a lock for access resource.

Applicant argued that Chan does not teach that "a process repeatedly issue lock conversions to change two or more lock modes before the process is allowed to access a resource; using a queue manager to manages the queue and move the processes down the queue".

In response to applicant's argument, Examiner respectfully disagrees because the above limitations are not recited in claims.

For the above reason, Brenner teaches the above claimed limitation.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-21 and 26-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The added limitation "the particular process repeatedly attempting to associate with successively lower lock levels until lock level is equal to a preset value; wherein the

particular process changes two or more lock levels from an initially assigned lock level to the lock level having the preset value before the process is allowed to access the record" in claim 1 was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s).

The added limitation “wherein if the second process associates itself with the first lock level before the third process associates itself with the first lock level, the third process associates itself with the second lock level and repeatedly attempts to associate itself with the first lock level” in claim 9 was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s).

The recited limitation “each of at least some of the processes not currently associated successively lower lock levels until the process is permitted to access the record; wherein each of some of the processes changes two or more lock levels from an initially assigned lock level to the particular lock level before the process is allowed to access the record” in claim 14 was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s).

The recited limitation “ each of at least some of the different processes having a lock level other than the particular lock level repeatedly attempting to associate itself with another lock level that is closer to the particular lock level until the process associates itself with the particular lock level, wherein each of some of the processes changes two or more lock levels from an initially assigned lock level to the particular lock level before the process is allowed to access the record” in claim 19 was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s).

The recited limitation “wherein if the second process associates itself with the first lock level before the third process associates itself with the first lock level, the third process associates itself with the second lock level and repeatedly attempts to associate itself with the first lock level" in claim 26, was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s).

The recited limitation “repeatedly attempt to associate the particular process with successively lower lock level levels until the lock level is equal to a preset value, wherein the particular process changes two or more lock levels from an initially assigned lock level to the lock level having the preset value before the process is allowed to access the database” in claim 31 was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s).

The recited limitation “cause each of at least some of the processes to repeatedly attempt to associate itself with successively lower lock levels; wherein each of some of the processes changes two or more lock levels after being assigned an initial lock level and before the process is allowed to access the record” in claims 34 was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s).

The dependent claims of independent claims 1, 9, 14, 19, 26, 31 and 34 are rejected under the same reason as discussed above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-20 and 26-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al (or hereinafter "Chan") (US 6108654) in view of Brenner et al (or hereinafter “Brenner”) (US 2002/0078119).

As to claim 1, Brenner teaches the claimed limitations:

“in a software –implemented procedure associating a lock level with a particular process” as (the lock manager grants a lock to the process. The lock is typically associated with an access mode that determine the type and scope of access granted to the process. The lock held at this level is the lowest level of the hierarchy of locks (col. 6, lines 15-60),

“each of the processes being associated with no more than one lock level” as (col. 6, lines 15-65);

" a higher lock level representing a larger number of other processes having priority over the particular process in accessing the database” as each lock granted to a

process is typically associated with an access mode that determines the type and scope of access granted to the process. In this case, the lock is associated with Concurrently write mode (CR mode lock) which is a higher lock level. When the lock is held at this level, multiple other processes can concurrently perform reads upon the same resource or table. It means that CR mode lock level representing other processes having priority over a process in accessing resource or table (col. 1, lines 55-67; col. 6, lines 15-65);

"if the particular process has been successfully associated with the lower lock level, releasing a previous lock level associated with the particular process so that the previous lock level is available to be associated with other processes" as if a process seeks to access a resource, it sends a lock conversion request to the lock manager. If the lock request conflicts with prior granted locks, then the request is placed onto the requested queue 246 until it can be granted. Otherwise, control returns back to step 480, where the lock manager awaits further lock requests. It means that a process repeatedly attempt to request a lower lock level many times by sending a lock request to the lock manager until it can be granted and previous lock level is released and available to other processes (fig. 4, col. 6, lines 13-20; col. 10, lines 5-25);

"the software-implemented procedure allowing the particular process to access the database" as (col. 1, lines 20-40; col.10, lines 5-15);

"wherein the particular process changes two or more lock levels from an initially assigned lock level to the lock level" "before the process is allowed to access the

record" as a process changes two lock levels from an assigned lock level to another lock level before accessing the record (col. 7, lines 25-67; col. 8, lines 1-10).

Chan does not explicitly teach the claimed limitations " the particular process repeatedly attempting to associate the particular process with successively lower lock levels until the lock level is equal to a preset value, when the lock level for the particular process is equal to a preset value, and the software-implemented procedure updating data indicating which lock level is associated with which process having the preset value ".

Brenner teaches write flag 105 is set to a true (a preset value) when the lock is held by one or more readers and a writer has requested the lock. In this case, reader is represented as a process (fig. 5, paragraphs 0048, 0059).

Brenner teaches firstly, write flag 105 is set to false value, but later write flag 105 is set to a true value when the lock is held by one reader (figs. 4-6, paragraphs 0048, 0059).

Brenner teaches a process H request a lock to access resource. If the lock is available, process H is assigned a lock to access resource. If lock is not available, process H is put in a queue for sleep until the process is woken up and requests the lock again (paragraph 0051, 0053, 0057). The above information shows that the process is repeatedly attempting to associate the process with a lock for access resource.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Brenner's teaching to Chan's system in order to allow

current users to perform their processing faster and make the lock available to other processes waiting for a lock level, reduce the probability that a low-priority process will be time -sliced just after acquiring the lock so that the process is more likely to release the lock in a timely fashion and further efficiently utilize the complex lock and increase the throughput of processes desiring to use the lock (Brenner, paragraph [0032]).

As to claims 2 and 32, Chan and Brenner teaches the claimed limitation subject matter in claim 1, Brenner further teaches the claimed limitations in which the preset value is equal to one (paragraph [0070]).

As to claims 3 and 33, Chan teaches the claimed limitations “in which each of the processes attempts to associate itself with a lower lock level independently of other processes” as (col. 6, lines 13-20, fig. 4).

As to claim 4, Chan and Brenner teaches the claimed limitation subject matter in claim 1, Brenner further teaches the claimed limitations “further comprising storing in a queue information indicating which process is associated with which lock level” as (paragraphs [0050-0052]).

As to claim 5, Chan teaches the claimed limitations “calling multiple instances of a procedure that associates a lock level with a process, each instance of the procedure associated with one of the multiple processes and is configured to attempt to associate

a different lock level with the process associated with the instance until the process is granted access to the record" as (as (col. 6, lines 65-67; col. 7, lines 1-10; col. 15, lines 20-25).

As to claim 6, Chan and Brenner teaches the claimed limitation subject matter in claim 1, Brenner further teaches the claimed limitations "allowing processes to read the record but not modify the record when the lock levels for the processes are different from the preset value" as (paragraph 0054, fig. 3).

As to claim 7, Chan and Brenner teaches the claimed limitation subject matter in claim 1, Brenner further teaches the claimed limitations "locking the record when the lock level having the preset value is associated with a process" as (paragraphs [0048, 0053], fig. 3).

As to claim 8, Chan teaches the claimed limitations "in which at least two of the processes are being run in a parallel processing environment" as (col. 6, lines 40-45).

As to claim 9, Chan teaches the claimed limitations:

"in a software-implemented procedure, upon receiving a request from a first process to access a record in a database, associating a first lock level with the first process and allowing the first process to access the record, preventing other processes from

modifying the record until the first process finishes accessing the record" as if a process seeks to access a resource, it sends a lock request to the lock manager. When the lock manger grants a lock to the process. Protected Write Mode (PR mode). This mode can also be referred to as the update mode. Only one process at a time can hold a lock at this level. This access mode permits a process to modify a resource without allowing any other processes to modify the resource at the same time (col. 6, lines 15-50);

"upon receiving a request from a second process to access the record while the first process is still accessing the record, associating a second lock level with the second process" as to illustrate the application of Table 1, consider a shared resource that is currently being locked by Process 1 in PR mode. If Process 2 requests a PR mode lock on the same resource, then the lock request can be immediately granted, since the modes of the requested lock and the granted lock are compatible. Multiple processes can concurrently perform reads upon the same resources. In another example, Grated lock 250 is held by process 1 in NL mode and granted lock 252 is held by process 2 in PR mode (col.7, lines 35-65);

"upon receiving a request from a third process to access the record while the first process is still access the record, associating a third lock level with the third process," as (col. 6, lines 30-50; col. 7, lines 1-20);

"when the first processes finishes accessing the record, releasing the first lock level" as (col. 7, lines 1-20),

"when one of the second and third processes associates itself with the first lock level, permitting the process to modify the record" as (col. 6, lines 35-55);

"wherein if the second process associates itself with the first lock level before the third process associate itself with the first lock level, the third process associate itself with the second lock level" as (col. 7, lines 25-67; col. 8, lines 1-10).

Chan does not explicitly teach the claimed limitation "the second and third processes each repeatedly attempting to associate itself with a lower lock level; the software-implemented procedure updating data indicating which lock level is associated with which process; repeatedly attempts to associate itself with the first lock level".

Brenner teaches write flag 105 is set to a true (a preset value) when the lock is held by one or more readers and a writer has requested the lock. In this case, reader is represented as a process (fig. 5, paragraphs 0048, 0059).

Brenner teaches firstly, write flag 105 is set to false value, but later write flag 105 is set to a true value when the lock is held by one reader (figs. 4-6, paragraphs 0048, 0059).

Brenner teaches a process H request a lock to access resource. If the lock is available, process H is assigned a lock to access resource. If lock is not available, process H is put in a queue for sleep until the process is woken up and requests the lock again (paragraph 0051, 0053, 0057). The above information shows that the process is repeatedly attempting to associate the process with a lock for access resource.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Brenner's teaching to Chan's system in order to allow current users to perform their processing faster and make the lock available to other processes waiting for a lock level, reduce the probability that a low-priority process will be time -sliced just after acquiring the lock so that the process is more likely to release the lock in a timely fashion and further efficiently utilize the complex lock and increase the throughput of processes desiring to use the lock (Brenner, paragraph [0032]).

As to claims 10 and 27, Chan teaches the claimed limitation "in which preventing other processes from modifying the record comprises allowing the other processes to read the record but not modify the record" as (col. 6, lines 45-55).

As to claims 11 and 28, Chan teaches the claimed limitation "locking the record when the first lock level is associated with a process" as (col. 6, lines 40-50).

As to claims 12 and 29, Chan teaches the claimed limitation "writing to a queue to specify which lock level is associated with which process" as (col. 7, lines 45-67).

As to claims 13 and 30, Chan teaches the claimed limitation "in which at least two of the first, second, and third processes are being run in a parallel processing environment" as (col. 6, lines 65-67).

As to claims 14 and 34, Chan teaches the claimed limitation:

"in a software implemented procedure locking a record in a database at multiple levels when multiple processes running in parallel attempt to access the record" as (col. 6, lines 45-65);

"assigning a lock level to each of the multiple processes, each process having a different lock level" as (col. 8, lines 1-20); and

"selectively permitting one of the multiple processes to access the record at a time" as (col. 6, lines 45-50);

"wherein each of some of the processes changes two or more lock levels from an initially assigned lock level to the particular lock level before the process is allowed to access the record" as a process changes two lock levels from an assigned lock level to another lock level before accessing the record (col. 7, lines 25-67; col. 8, lines 1-10).

Chan does not explicitly teach the claimed limitation "each of at least some of the process not currently associated with a lock level repeatedly attempting to associated itself with successively lower lock levels until the process is permitted to access the record; updating data indicating which lock level is associated with which process".

Brenner teaches write flag 105 is set to a true (a preset value) when the lock is held by one or more readers and a writer has requested the lock. In this case, reader is represented as a process (fig. 5, paragraphs 0048, 0059).

Brenner teaches firstly, write flag 105 is set to false value, but later write flag 105 is set to a true value when the lock is held by one reader (figs. 4-6, paragraphs 0048, 0059).

Brenner teaches a process H request a lock to access resource. If the lock is available, process H is assigned a lock to access resource. If lock is not available, process H is put in a queue for sleep until the process is woken up and requests the lock again (paragraph 0051, 0053, 0057). The above information shows that the process is repeatedly attempting to associate the process with a lock for access resource.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Brenner's teaching to Chan's system in order to allow current users to perform their processing faster and make the lock available to other processes waiting for a lock level, reduce the probability that a low-priority process will be time -sliced just after acquiring the lock so that the process is more likely to release the lock in a timely fashion and further efficiently utilize the complex lock and increase the throughput of processes desiring to use the lock (Brenner, paragraph [0032]).

As to claims 15 and 35, Chan teaches the claimed limitation "reassigning the lock levels of the processes when a process accessing the record terminates its access to the record" as (fig. 4, col. 8, lines 1-15).

As to claims 16 and 36, Chan and Brenner teach the claimed limitation "in which a process that attempted to access the record earlier than another process is assigned a lower lock level than the other process, and each process other than the process terminating its access to the record is assigned a lower lock level when the process terminates its access to the record" as (Brenner paragraphs [0053, 0054], Chan (fig. 4)).

As to claims 17 and 37, Chan and Brenner teach the claimed limitation "storing in a queue information indicating which process is associated with which lock level" as (Brenner, fig. 2).

As to claims 18 and 38, Chan teaches the claimed limitation "calling multiple instances of a procedure that assigns a lock level to a process, each instance of the procedure associated with one of the multiple processes and is configured to attempt to assign a different lock level to the process until the process is granted access to the record" (col. 6, lines 65-67; col. 7, lines 1-10; col. 15, lines 20-25).

As to claim 19, Chan teaches the claimed limitations:

A database to store records (col. 1, lines 35-45); and

a queue to store information relating to lock levels of processes that attempt to access the records (col. 7, lines 55-65),

"each different process having a different lock level when attempting to access the same record" as (col. 7, lines 1-40; col. 8, lines 1-15),

"one of the processes having a particular lock level, the process having a particular lock level being allowed to access the record" as (col. 6, lines 15-50);

"a programmable processor to execute a procedure to assign a respective lock level to each of the different processes" as (col. 6, lines 55-65; col. 7, lines 1-45);

"the procedure allowing any one process to access record when that one process has the particular lock level" as (col. 6, lines 65-67; col. 7, lines 1);

" each of at least some of the different processes having a lock level other than the particular lock level " as (col. 6, lines 1-20; col. 7, lines 5-15; col. 8, lines 1-15);

"wherein each of some of the processes changes two or more lock levels from an initially assigned lock level to the particular lock level before the process is allowed to access the record" as a process changes two lock levels from an assigned lock level to another lock level before accessing the record (col. 7, lines 25-67; col. 8, lines 1-10).

Chan does not explicitly teach limitation "repeatedly attempting to associated itself with another lock level that closer to the particular lock level until the process associates itself with the particular lock level".

Brenner teaches write flag 105 is set to a true (a preset value) when the lock is held by one or more readers and a writer has requested the lock. In this case, reader is represented as a process (fig. 5, paragraphs 0048, 0059).

Brenner teaches firstly, write flag 105 is set to false value, but later write flag 105 is set to a true value when the lock is held by one reader (figs. 4-6, paragraphs 0048, 0059).

Brenner teaches a process H request a lock to access resource. If the lock is available, process H is assigned a lock to access resource. If lock is not available, process H is put in a queue for sleep until the process is woken up and requests the lock again (paragraph 0051, 0053, 0057). The above information shows that the process is repeatedly attempting to associate the process with a lock for access resource.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Brenner's teaching to Chan's system in order to allow current users to perform their processing faster and make the lock available to other processes waiting for a lock level, reduce the probability that a low-priority process will be time -sliced just after acquiring the lock so that the process is more likely to release the lock in a timely fashion and further efficiently utilize the complex lock and increase the throughput of processes desiring to use the lock (Brenner, paragraph [0032]).

As to claim 20, Chan teaches the claimed limitation "a memory to store software code for implementing a procedure in which instances of the procedure are used to assign lock levels to the processes" as (col. 6, lines 65-67; col. 7, lines 1-10; col. 15, lines 20-25).

As to claim 26, Chan teaches the claimed limitations:

"Upon receiving a request from a first process to access a record a database, associate a first lock level with the first process and allow the first process to access the

record but prevent other processes from accessing the record until the first process finishes accessing the record "(col. 6, lines 15-55; col. 1, lines 35-45);

"Upon receiving a request from a second process to access record while the first process still accessing the record associate a second lock level with the second process" as (fig. 4, col. 7, lines 1-6);

"upon receiving a request from a third process to access the record while the first process still accessing the record" as (fig. 4, col. 8, lines 1-20),

"associating a third lock level with the third process" as (col. 8, lines 1-20);

"when the first process finishes accessing the record, release the first lock level from being associated with first process" as (col. 6, lines 15-25);

"when one of second and third processes associated itself with the first lock level, permitting the process access the record" as (fig. 3&4, col. 6, lines 55-65; col. 8, lines 1-15);

"wherein if the second process associates itself with the first lock level before the third process associates itself with first lock level, the third process associate itself with the second lock level" as (col. 7, lines 25-67; col. 8,lines 1-10).

Chan does not explicitly teach "cause of each of second and third process independently attempt to associated itself with a lower lock level; repeatedly attempts to associate itself with the first lock level".

Brenner teaches write flag 105 is set to a true (a preset value) when the lock is held by one or more readers and a writer has requested the lock. In this case, reader is represented as a process (fig. 5, paragraphs 0048, 0059).

Brenner teaches firstly, write flag 105 is set to false value, but later write flag 105 is set to a true value when the lock is held by one reader (figs. 4-6, paragraphs 0048, 0059).

Brenner teaches a process H request a lock to access resource. If the lock is available, process H is assigned a lock to access resource. If lock is not available, process H is put in a queue for sleep until the process is woken up and requests the lock again (paragraph 0051, 0053, 0057). The above information shows that the process is repeatedly attempting to associate the process with a lock for access resource.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Brenner's teaching to Chan's system in order to allow current users to perform their processing faster and make the lock available to other processes waiting for a lock level, reduce the probability that a low-priority process will be time -sliced just after acquiring the lock so that the process is more likely to release the lock in a timely fashion and further efficiently utilize the complex lock and increase the throughput of processes desiring to use the lock (Brenner, paragraph [0032]).

As to claim 31, Chan teaches the claimed limitations:

"associate a lock level with a particular process" as (col. 6, lines 45-50),

"a higher lock level representing a larger number of other processes having priority over the particular process in accessing the database, each of the processes

being associated with no more than one lock level" as (col. 6, lines 25-65, col. 1, lines 35-45);

"each time the particular process has been successfully associated with a lower lock level, release a previous lock level associated with the particular process so that the previous lock level is available to be associated with other processes" as as each lock granted to a process is typically associated with an access mode that determines the type and scope of access granted to the process. In this case, the lock is associated with Concurrently write mode (CR mode lock) which is a higher lock level. When the lock is held at this level, multiple other processes can concurrently perform reads upon the same resource or table. It means that CR mode lock level representing other processes having priority over a process in accessing resource or table (col. 1, lines 55-67; col. 6, lines 15-65);

“allowing the particular process to access the database” as (col. 1, lines 20-40; col.10, lines 5-15).

“wherein the particular process changes two or more lock levels from an initially assigned lock level to the lock level” "before the process is allowed to access the database” as (col. 7, lines 25-67; col. 8, lines 1-10).

Chan does not explicitly teach the claimed limitations " repeatedly attempt to associate the particular process with lower lock levels until the lock level is equal to a preset value, when the lock level for the particular process is equal to a preset value, having the preset value”.

Brenner teaches write flag 105 is set to a true (a preset value) when the lock is held by one or more readers and a writer has requested the lock. In this case, reader is represented as a process (fig. 5, paragraphs 0048, 0059).

Brenner teaches firstly, write flag 105 is set to false value, but later write flag 105 is set to a true value when the lock is held by one reader (figs. 4-6, paragraphs 0048, 0059).

Brenner teaches a process H request a lock to access resource. If the lock is available, process H is assigned a lock to access resource. If lock is not available, process H is put in a queue for sleep until the process is woken up and requests the lock again (paragraph 0051, 0053, 0057). The above information shows that the process is repeatedly attempting to associate the process with a lock for access resource.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Brenner's teaching to Chan's system in order to allow current users to perform their processing faster and make the lock available to other processes waiting for a lock level, reduce the probability that a low-priority process will be time -sliced just after acquiring the lock so that the process is more likely to release the lock in a timely fashion and further efficiently utilize the complex lock and increase the throughput of processes desiring to use the lock (Brenner, paragraph [0032]).

As to claim 34, Chan teaches the claimed limitations:

"lock a record in a database at multiple levels when multiple processes running in parallel attempt to access the record" as (col. 6, lines 45-65);

"assign a lock level to each process, different processes having different lock levels" as (col. 8, lines 1-20);

"selectively allow one of the multiple processes to access the record at a time" (col. 6, lines 45-50);

"wherein each of some of the processes changes two or more lock levels after being assigned an initial lock level and before the process is allowed to access record" as (col. 7, lines 25-67; col. 8, lines 1-10).

Chan does not explicitly teach the claimed limitation "cause each of at least some of the processes to repeatedly attempt to associate itself with successively lower lock levels; ".

Brenner teaches a process H request a lock to access resource. If the lock is available, process H is assigned a lock to access resource. If lock is not available, process H is put in a queue for sleep until the process is woken up and requests the lock again (paragraph 0051, 0053, 0057). The above information shows that the process is repeatedly attempting to associate the process with a lock for access resource.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Brenner's teaching to Chan's system in order to allow current users to perform their processing faster and make the lock available to other processes waiting for a lock level, reduce the probability that a low-priority process will

be time -sliced just after acquiring the lock so that the process is more likely to release the lock in a timely fashion and further efficiently utilize the complex lock and increase the throughput of processes desiring to use the lock (Brenner, paragraph [0032]).

As to claims 39 and 40, Brenner teaches the claimed limitation “different processes operate in parallel to attempt associate with lower lock levels” as (paragraph 0053).

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al (or hereinafter "Chan") (US 6108654) in view of Cota-Robles (US 6658447).

As to claim 21, Chan does not explicitly teach the claimed limitation “in which the software code is configured so that the instances of the procedure are run in parallel”.

Cota-Robles teaches instructions are run in parallel (col. 2, lines 1-40; col. 4, lines 38-40).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Cota-Robles's teaching of instructions are run in parallel to Chan's system in order to execute multiple processes in a processor at the same time and to improve performance of processes in a system quickly.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam Y T. Truong whose telephone number is (571) 272-4042. The examiner can normally be reached on Monday to Firday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cam Y Truong/
Primary Examiner, Art Unit 2162